Air Force Research Laboratory|AFRL

Science and Technology for Tomorrow's Air and Space Force

Success Story

AFOSR RECOGNIZES AWARD-WINNING BIOLOGIST AND HIS RESEARCH TEAM FOR CONTRIBUTIONS TO NATIONAL DEFENSE

Presented annually, the Air Force Office of Scientific Research (AFOSR) Star Team Award recognizes teams of researchers who have effectively demonstrated, through their track record, world-class status and excellence in their chosen areas of basic research. The Star Team Award recognizes the talent, professionalism, and dedication of the men and women in the Materials and Manufacturing Directorate and enhances AFRL's reputation as a leader in materials research and development.

Air Force Research Laboratory
Wright-Patterson AFB OH

Accomplishment

The AFOSR recently selected a directorate team of research scientists, engineers, and technicians led by Dr. Morley O. Stone, a research biologist, to receive a Star Team Award from AFOSR for outstanding contributions to science and national defense. AFOSR recognized Dr. Stone's research team for significant advances in biomimetics and biotechnology, which could have a far-reaching impact on scientific research and applications supporting the Air Force.

Background

Dr. Stone is the principal research biologist and biotechnology direction leader in the directorate's Survivability and Sensor Materials Division. The research emphasizes and focuses on how best to combine the revolution in recombinant Deoyxribose Nucleic Acid (DNA) technology with traditional materials science applications in areas such as biomimetics, materials science, bioMEMS, and bioNEMS (micro- and nano- electromechanical systems).

Biomimetics looks at how nature organizes materials or uses biological macromolecules to gain a particular function; for example, how biology senses electromagnetic radiation outside of the visible region. Materials science uses biotechnology to create unique polymeric materials and to better understand processes like biomineralization.

BioMEMS/NEMS consider the interface of biological macromolecules with micro- and nano-fabrication. Biologically-derived molecules, for example, serve as catalysts, motors, and/or binding agents. Dr. Stone and his associates explore ways to apply these activities to traditional silicon-based MEMS devices.

Dr. Stone graduated with honors from Wright State University in 1991 with a bachelor's degree in biological sciences and earned a doctorate degree in biochemistry from Carnegie Mellon University in 1997. He is a recipient of the Charles J. Cleary Award (the directorate's most prestigious scientific achievement honor) and the Air Force Basic Research Award Honorable Mention.

Dr. Stone won the highly coveted AFRL Commander's Cup in 2002 and was nominated for the Arthur S. Fleming Award for scientific achievement. Dr. Stone is an adjunct professor at Ohio State University, an advisor to the National Research Council, and was nominated for the Massachussetts Institute of Technology's *Technology Review 100* recognizing top professionals in the nation. His work appeared in numerous publications, and he is an invited speaker at symposiums and other scientific gatherings nationwide.

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (03-ML-47)